Docket No. LU 6075

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Wolfgang ROHDE, et al.

Serial No.: 10/538,536 Group Art Unit: 1754

Filed: June 10, 2005 Examiner: C.N. NGUYEN

Title: **SUPPORTED CHROMIUM CATALYST AND ITS USE FOR PREPARING HOMOPOLYMERS AND COPOLYMERS OF ETHYLENE**

RESPONSE AND AMENDMENT UNDER 37 C.F.R. §1.113 AND §1.116

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action bearing a mailing date of November 24, 2006. The three-month shortened statutory period to respond was set to expire on February 24, 2007. A two-month extension of time accompanies this response. As such, this response is timely filed.

In view of the following remarks, Applicant respectfully requests the Examiner to reconsider and withdraw the outstanding and rejection, and allow all claims pending in this application.

1. Rejection of Claims 1-9 Under 35 U.S.C. §102(e)/103(a)

The Office Action states that claims 1-9 are rejected under 35 U.S.C. §102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent 7,019,089 (herein referred to as "Schneider, et al."). In particular, the Office Action states,

Schneider discloses a process for preparing supported,

titanized chromium catalysts, which comprises the following steps: A) brining a spherical, spray-dried, oxidic support material into contact with a titanium compound in a suspension, B) brining the support material which has been treated into contact with a chromium salt solution in a suspension and subsequently removing the solvent, C) optionally, calcining the precatalyst obtained in step B), etc., and D) activating the precatalyst obtained in step B) or C) at a temperate of from 500°C to 800°C in an oxygen-containing atmosphere (see col. 14, claim 1). Methanol (or a protic medium) is used as a solvent to prepare the chromium mixture (see col. 10, Example 1). The oxidic support is silca gel (se col. 14, claim 2). Schneider also discloses a process for preparing homopolymers of ethylene and copolymers of ethylene, etc. using supported titanized chromium catalysts prepared by a process as described above (see col. 14, claim 7).

While Schneider is silent with respect to the water content contained in the protic medium, it is inherent that the same protic medium used would contain the same water content as being claimed.

In the alternative, if in fact the water content in the protic medium of the Schneider's process is not the same as the claimed water content then the following applies.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have controlled the water content in the protic medium in Schneider's process in order to result in an effective catalyst because of *In re Boesch*.

RESPONSE

Applicant respectfully traverses the rejection of claims 1-9.

As previously outlined in Applicant's response of August 7, 2006, for a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claims is found, either expressly or

inherently, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California,* 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), (Emphasis added). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.,* 9 USPQ2d 1913, 1920 (Fed. Cir. 1989), (Emphasis added). The elements must also be arranged as required by the claim. *In re Bond,* 15 USPQ2d 1566 (Fed. Cir. 1990).

Additionally, as previously outlined in Applicant's response of August 7, 2006, Applicant respectfully believes Schneider, et al. fails to disclose, teach, or suggest, "A process for preparing supported, titanized chromium catalysts, which comprises the following steps:

A) bringing a support material into contact with a protic medium having a water content less than 20% by weight and comprising a titanium compound and a chromium compound;

B) optionally, removing the protic medium, thereby forming a precatalyst;

C) optionally, calcining the precatalyst obtained after step B); and

D) optionally, activating the precatalyst obtained after step B) or C) in an oxygen-containing atmosphere at from 400°C to 1100°C."

In particular, as previously outlined in Applicant's aforementioned response, Applicant believes Schneider, et al. fails

to disclose, teach, or suggest a process for preparing supported, titanized chromium catalysts in which the support material is brought into contact with a protic medium comprising both a titanium and chromium compound in a single step. In fact, as conceded by the Examiner in the currently pending Office Action on page 2, last line, to page 3, line 3, Schneider, et al. discloses a two-step process for preparing supported, titanized chromium catalysts which comprises I) bringing an oxidic support material into contact with a titanium compound, and then II) bringing the titanium-treated support material into contact with a chromium salt solution. See col. 2, lines 12-19, and col. 4, line 46 - col. 5, line 7.

Accordingly, Applicant respectfully contends since the Examiner concedes Schneider, et al. discloses a two-step process for preparing titanized chromium catalysts, and not a one-step process as currently claimed, Schneider, et al. clearly cannot anticipate the currently pending claims under 35 U.S.C. § 102. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989);(Emphasis added).

Additionally, the Examiner concedes Schneider, et al. does not disclose, teach, or suggest the currently claimed water content of the protic medium. See page 3, lines 11-13.

As a way to account for this difference, the Examiner has made a broad-brush assertion that the currently claimed water content of the protic medium would be inherent in Schneider, et al. However,

the Examiner has not proffered any *factual, objective evidence* or *any reasonable technical rationale* to support such a claim of inherency. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999); (Emphasis added) See MPEP §2112 (IV) and §2163.07(a).

As such, for the reasons set forth above, Applicant respectfully believes Schneider, et al. does not anticipate the currently pending claims. Accordingly, Applicant respectfully requests the Examiner to withdraw the currently pending anticipation rejection.

With respect to the currently pending obviousness rejection, as previously outlined in Applicant's response of August 7, 2006, the currently claimed subject matter, and the subject matter contained in Schneider, et al., are commonly owned, and Applicant was subject to an obligation of assignment to the owner of the Schneider, et al. patent at the time the claimed subject matter was made. Applicant previously submitted as ATTACHMENT B on August 7, 2006, (1) a copy of the Recordation of Assignment for the currently pending application, and (2) a copy of the assignee of record for the Schneider, et al. patent.

Accordingly, as dictated by 35 U.S.C. 103(c), Applicant respectfully believes Schneider, et al. is not prior art under 35 U.S.C. 103(a). See MPEP §2146.

Moreover, Applicant responds as follows with respect to the Examiner's comments on page 4 of the currently pending Office Action, which states,

> Applicants' response filed on August 09, 2006 has been fully considered, but not deemed persuasive for the following reasons.
>
> Applicants urgings have been noted, but not found persuasive because: (1) the minimal amount required for water content in the instant claims is "0%" due to the phrase "less than 20% by weight", which does not set forth specific amount in the lower range. (2) the transitional phrase "comprising" in the claims is open to include multiple process steps, such as disclosed by the prior art reference, Schneider et al. (3) it is considered there is no patentability in the claimed process step of adding titanium compound and chromium compound together as a medium or adding them separately one after another as disclosed in the Schneider et al. process. There is no criticality or unexpected results provided or comparative data showing such difference is significant.
>
> Applicants further urging, that the claimed subject matter and the subject matter contained in the Schneider et al. reference are commonly owned, and Applicant was subject to an obligation to assignment to the owner of the Schneider, et al. patent at the time the claimed subject matter was made, etc. has been noted. However, it is not found persuasive because there is no common inventor between the instant application and the Schneider et al. patent. Thus, the claimed subject matter is considered made or invented by "another".

With respect to the Examiner's statement that, "(2) the transitional phrase 'comprising' in the claims is open to include multiple process steps, such as disclosed by the prior art

reference, Schneider et al.," Applicant respectfully traverses this assertion.

In particular, as outlined in Applicant's previous response of August 7, 2006, Applicant believes the previously pending claims were in fact not anticipated by Schneider, et al., given Schneider, et al. fails to disclose, teach, or suggest a one-step process for preparing the previously claimed supported, titanized chromium catalyst, wherein the support material is brought into contact with a protic medium having a water content less than 20% by weight and comprises a titanium compound and a chromium compound. Accordingly, since the currently claimed protic medium comprises both a titanium compound and chromium compound, Applicant respectfully believes when the support material is brought into contact with the protic medium, the support material is therefore simultaneously brought into contact with the titanium and chromium compounds in a single step.

Furthermore, Applicant responds as follows, with respect to the Examiner's statement that,

> (3) it is considered there is no patentability in the claimed process step of adding titanium compound and chromium compound together as a medium or adding them separately one after another as disclosed in the Schneider et al. process. There is no criticality or unexpected results provided or comparative data showing such difference is significant.

As outlined *supra*, the currently claimed subject matter, and the subject matter contained in Schneider, et al., are commonly owned, and Applicant was subject to an obligation of assignment to

the owner of the Schneider, et al. patent at the time the claimed subject matter was made. As such, with respect to the current rejection, as dictated by 35 U.S.C. 103(c), Applicant respectfully believes Schneider, et al. is not prior art under 35 U.S.C. 103(a). See MPEP §2146.

With respect to the Examiner's contention that,

> However, it is not found persuasive because there is no common inventor between the instant application and the Schneider et al. patent. Thus, the claimed subject matter is considered made or invented by "another".

Applicant respectfully traverses the Examiner's contention that the currently pending claims are not patentable because "there is not common inventor between the instant application and the Schneider et al. patent."

As outlined *supra*, Schneider, et al. does not disclose, teach, or suggest Applicant's currently claimed process for producing titanized chromium catalysts in a single step, wherein a support material is brought into contact with a protic medium having a water content less than 20% by weight, and the protic medium comprises a titanium compound and a chromium compound. Accordingly, given the above, along with the Examiner's concessions regarding Schneider, et al. throughout the currently pending Office Action, Applicant believes the currently pending claims are clearly not anticipated by Schneider, et al., irrespective of the inventors named in the instant application.

With respect to the currently pending obviousness rejection,

given the subject matter contained in Schneider, et al., are commonly owned, and Applicant was subject to an obligation of assignment to the owner of the Schneider, et al. patent at the time the claimed subject matter was made, as dictated by 35 U.S.C. 103(c), Schneider, et al. is not prior art under 35 U.S.C. 103(a). See MPEP §2146. Accordingly, the current obviousness rejection should be withdrawn.

In light of the above, claims 1-9 are therefore believed to be novel and patentably distinguishable from Schneider, et al. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

Based upon the above remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the references of record. The Examiner is therefore respectfully requested to reconsider and withdraw all rejections and allow all pending claims 1-9. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned practioner if any questions or comments arise.

Respectfully submitted,

By: _____

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on April 17 2007

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Signature Date April 17 2007